Mrs. Hayden

Name Key Date

Algebra Review

~~Factor:~~ Solve

1. $3x + 4 = 22$
$3x = 18$
$x = 6$

2. $5(x + 2) = 14$
$5x + 10 = 14$
$5x = 4$
$x = \frac{4}{5}$

3. $2x - 8 = 30$ $2x = 38$
$x = 19$

4. $3x - 12 = 8x + 2$
$-14 = 5x$
$-\frac{14}{5} = x$

5. $7x + 4 = 4x + 19$
$3x = 15$
$x = 5$

6. $6(x + 5) = 5x - 4$
$6x + 30 = 5x - 4$
$x = -34$

7. $\frac{3}{4}x + 15 = 24$
$\frac{4}{3}\left[\frac{3}{4}x = 9\right]$
$x = 12$

8. $\frac{1}{2}(x+8) = 21$
$x + 8 = 42$
$x = 34$

9. $\frac{2}{3}x - 8 = 6$
$\frac{3}{2}\left[\frac{2}{3}x = 14\right]$
$x = 21$

Simplify.

1. $\sqrt{50x^2}$ $5x\sqrt{2}$

2. $\sqrt{108y^5}$ $6y^2\sqrt{3y}$

3. $\sqrt{81x^3}$ $9x\sqrt{x}$

4. $\sqrt{45}$ $3\sqrt{5}$

5. $\sqrt{243}$ $9\sqrt{3}$

6. $\sqrt{\frac{16}{25}}$ $\frac{4}{5}$

7. $\sqrt{\frac{3}{8}}$ $\frac{\sqrt{6}}{4}$

8. $\sqrt{\frac{5}{9}}$ $\frac{\sqrt{5}}{3}$

9. $\frac{10}{\sqrt{24}}$ $\frac{5\sqrt{6}}{6}$

10. $\frac{14}{\sqrt{12}}$ $\frac{7\sqrt{3}}{3}$

11. $2\sqrt{12} - 3\sqrt{27} + 2\sqrt{48}$
$4\sqrt{3} \quad -9\sqrt{3} \quad +8\sqrt{3}$
$3\sqrt{3}$

12. $3\sqrt{45} - 5\sqrt{80} + 4\sqrt{20}$
$9\sqrt{5} \quad -20\sqrt{5} \quad +8\sqrt{5} = -3\sqrt{5}$

13. $3\sqrt{12} \cdot 2\sqrt{21}$ $36\sqrt{7}$

14. $-3\sqrt{24} \cdot 5\sqrt{20}$ $-60\sqrt{30}$

Solve the system.

1. Substitution
$2x - 3y = 3$
$x + y = 14$
$(9, 5)$

2. Substitution
$2x + y = 11$
$6x - 2y = -2$
$(2, 7)$

3. Elimination
$r + 4s = -8$
$3r + 2s = 6$
$(4, -3)$

4. Elimination
$6x - 8y = 50$
$4x + 6y = 22$
$(7, -1)$

Any Method.

5. $6x + 3y = 12$
$2x + y = 8$
$\emptyset$

6. $3x - 7y = -3$
$2x + 6y = -34$
$(-8, -3)$

7. $x + 2y = 6$
$2x + 4y = 12$
∞ # sol'ns on the line

8. $3x + 5y = 6$
$2x - 4y = -7$
$\left(-\frac{1}{2}, \frac{3}{2}\right)$